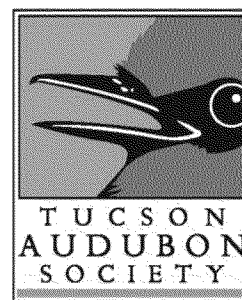


February 26, 2016

William Miller, Senior Project Manager, Arizona Branch, U.S. Army Corps of Engineers

Sallie Diebolt, Chief, Arizona Branch, U.S. Army Corps of Engineers



*Leaders in conservation
and education since 1949*

Re: Villages at Vigneto Proposed Development and Whetstone Ranch 404 Permit

Dear Mr. Miller and Ms. Diebolt:

With regard to Permit #2003-00826-SDM, we provide to you the attached pertinent scientific studies, government documents and news articles that contain important information for your consideration. Some of these studies and documents contain new information that has become available since this Section 404 permit was issued in June of 2006, while other studies existed prior to the issuance of the permit, but were not given due consideration during the permitting process that transpired a decade ago.

Main Office
300 E. University Blvd., #120
Tucson AZ 85705
TEL 520.629.0510
FAX 520.623.3476

Tucson Audubon's Mason Center
3835 W Hardy Road
Tucson AZ 85742

Karen Fogas
Executive Director
TEL 520.209.1801

kfogas@tucsonaudubon.org

The Villages at Vigneto development's anticipated deleterious environmental impacts would not occur *but for* the issuance of Clean Water Act Section 404 permit(s) by the Army Corps of Engineers (33 U.S. Code § 1344). Given the potential for the proposed Villages at Vigneto development to both directly and indirectly impact an Aquatic Resource of National Importance, as well as threatened and endangered species, all of these scientific studies and documents contain important information that must be fully considered during your re-evaluation of Permit #2003-00826-SDM; as well as in conjunction with future agency consultations and environmental assessments, which by law must be conducted in concert with the Corps' Section 404 permitting that is required for the proposed development.

Sincerely,

Karen Fogas
Executive Director
Tucson Audubon Society

Christina McVie
Conservation Chair
Tucson Audubon Society

Matt Clark
Conservation Policy Analyst
Tucson Audubon Society

CC:

**Benson City Council
Benson Planning and
Zoning Commission**
City Hall
120 W. 6th Street
Benson, Arizona 85602

Michelle Johnson, AICP
Planning & Zoning Planner
City of Benson Planning &
Zoning Dept.
City Hall
120 W. 6th Street
Benson, Arizona 85602

Kristin Terpening
Region V Habitat Specialist
Arizona Game & Fish Dept.
555 N Greasewood Rd,
Tucson, AZ 85745

Jason Brush
Manager
Water Division
U.S. Environmental Protection
Agency Region 9
75 Hawthorne St.
Mail Code: WTR-2-4
San Francisco, CA 94105

Jean Calhoun
Assistant Field Supervisor
for Southern Arizona
U.S. Fish & Wildlife Service
Tucson Sub-office
201 N Bonita
Suite 141
Tucson, AZ 85745

Vicki Vivian
City Clerk
City of Benson
City Hall
120 W. 6th Street
Benson, Arizona 85602

James Leenhouts
Supervisory
Hydrologist/Director
US Geological Survey
Arizona Water Science Center
520 North Park Avenue
Tucson, AZ 85719

Paul Esparaza, AICP
Director
Cochise County Planning
& Zoning Dept.
1415 Melody Lane
Bldg E
Bisbee, AZ 85603

Elizabeth Goldmann
Physical Scientist
Wetlands Section
U.S. Environmental Protection
Agency, Region 9
75 Hawthorne St.
Mail Code: WTR-2-4
San Francisco, CA 94105

Jason Douglas
Fish & Wildlife Biologist
U.S. Fish & Wildlife Service
Tucson Sub-office
201 N Bonita
Suite 141
Tucson, AZ 85745

visit our website at: www.tucsonaudubon.org

ED_00164700000903-00001

References

Pertinent studies and reports published prior to Permit #2003-00826-SDM being issued in June of 2006

- Arizona Department of Water Resources, 2009. Arizona Water Planning Atlas, Volume 3: Southeast Arizona Planning Area.
- Burgess and Niple, 2004. Groundwater Availability Study, Benson, Arizona, May 2004.
- Graff, C.G. 1999. Hydrogeology of Kartchner Caverns State Park, Arizona. *Journal of Cave and Karst Studies* 61(2): 59-67.
- Haney, J., 2005. The Lower San Pedro River—Hydrology and Flow Restoration for Biodiversity Conservation USDA Forest Service Proceedings RMRSP-36.
- Haney, J. and J. Lombard, 2005. Interbasin Groundwater Flow at the Benson Narrows, Arizona. *Southwest Hydrology*, March/April 2005.
- Kepner, W.G., D.J. Semmens, S.D. Bassett, D.A. Mouat, and D.C. Goodrich, 2004. Scenario Analysis for the San Pedro River, Analyzing Hydrological Consequences of a Future Environment. *Environmental Monitoring and Assessment* 94: 115-127.
- U.S. Department of Interior, U.S. Fish and Wildlife Service, 2004. Designation of Critical Habitat for the Mexican Spotted Owl.

Pertinent scientific studies published after Permit #2003-00826-SDM was issued in June of 2006

- Boykin, K.G., W.G. Kepner, D.F. Bradford, R.K. Guy, D.A. Koppa, A.K. Leimer, E.A. Samson, N.F. East, A.C. Neal, K.J. Gergely, 2013. A National Approach for Mapping and Quantifying Habitat-based Biodiversity Metrics Across Multiple Scales. *Ecological Indicators* 33(0):139-147.
- Cook, B., T.R. Ault, J.E. Smerdon, 2015. Unprecedented 21st century drought risk in the American Southwest and Central Plains. *Science Advances*. Vol. 1, no. 1, e1400082, DOI: 10.1126/sciadv.1400082.
- Marshall, R., M.D. Robles, D.R. Majka, J.A. Haney, 2010. Sustainable Water Management in the Southwestern United States: Reality or Rhetoric? *PLoS ONE*, July 2010, Vol 5, Issue 7, e11687.
- Meixner, T., A.H. Manning, D.A. Stonestrom, D. M. Allen, H. Ajami, K. W. Blasch, A. E. Brookfield, C.L. Castro, J.F. Clark, D.J. Gochis, A.L. Flint, K. L. Neff, R. Niraula, M. Rodell, B. R. Scanlon, K. Singham, and M.A. Walvoord, 2016. Implications of projected climate change for groundwater recharge in the western United States, *Journal of Hydrology* 534 (2016) 124–138.
- Nguyen, U., E. P. Glenn, P.L. Nagler, and R.L. Scott, 2014. Long-term decrease in satellite vegetation indices in response to environmental variables in an iconic desert riparian ecosystem: the Upper San Pedro, Arizona, United States. *Ecohydrology*. Wiley Online Library, DOI: 10.1002/eco.1529.
- Seager, R. G. Vecchi, H. Huang, N. Harnik, A. Leetmaa, N. Lau, C. Li, J. Velez, N. Naik, 2007. Model Projections of an Imminent Transition to a More Arid Climate in Southwestern North America. *Science*, Vol. 316, pp. 1181-1184.
- Serrat-Capdevila, A., J.B. Valdes, J. Gonzales Perez, K. Baird, L.J. Mata, T. Maddock III, 2007. Modeling climate change impacts – and uncertainty – on the hydrology of a riparian system: The San Pedro Basin (Arizona/Sonora). *Journal of Hydrology* 347, 48-66.
- McFarland, J. and J. Horst, 2015. Yellow-billed Cuckoo Surveys on the Coronado National Forest within Eight Sky Island Mountain Ranges in SE Arizona. Prepared by the Tucson Audubon Society under contract with the Coronado National Forest.

Pertinent Government Studies / Rules / Orders / Directives / Memoranda published after Permit #2003-00826-SDM was issued in June, 2006

- Alley, W.M., 2014. U.S. Department of Interior, U.S. Geological Survey. Five-Year Interim Report of the United States – Mexico Transboundary Aquifer Assessment Program: 2007–2012. Open-File Report 2013–1059.
- Arizona Department of Transportation and Arizona Game and Fish Department, 2006. Arizona Wildlife Linkages Assessment
- Arizona Game and Fish Department, 2012-2022. Arizona's State Wildlife Action Plan.
- Cordova, J.T., J.E. Dickinson, K.R. Beisner, C.B. Hopkins, J.R. Kennedy, D.R. Pool, E.P. Glenn, P.L. Nagler, and B.E. Thomas, 2015. U.S. Department of Interior, U.S. Geological Survey. Hydrology of the Middle San Pedro Watershed, Southeastern Arizona. Scientific Investigations Report 2013–5040. Prepared in cooperation with the Arizona Department of Water Resources.
- Department of Defense Directive 4715.21: Climate Change Adaptation and Resilience, 2016
- Executive Order 13653: Preparing the United States for the Impacts of Climate Change, 2013
- Leak, S.A., B. Gungle, U.S. Department of Interior, U.S. Geological Survey, 2012. Evaluation of Simulations to Understand Effects of Groundwater Development and Artificial Recharge on Surface Water and Riparian Vegetation, Sierra Vista Subwatershed, Upper San Pedro Basin, Arizona
- Levick, L., D. Semmens, D. Goodrich, W. Kepner, J. Brush, R.A. Leidy, and E. Goldmann, 2006. Simulated Changes in Runoff and Sediment in Developing Areas near Benson, Arizona, November 2006. EPA/600/R-06/158; ARS/1873.
- Pool, D.R. and A.L. Coes, 1999. U.S. Department of Interior, U.S. Geological Survey. Hydrologic Investigations of the Sierra Vista Subwatershed of the Upper San Pedro Basin, Cochise County, Southeast Arizona. Water-Resources Investigations Report 99–4197. Prepared in cooperation with the Arizona Department of Water Resources and Cochise County.
- Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment, 2015
- Secretarial Order 3289: Addressing the Impacts of Climate Change on America's Water, Land and other Natural and Cultural Resources 2009
- Secretarial Order 3330: Improving Mitigation Policies and Practices of the Department of Interior 2013
- U.S. Department of Interior, Landscape Scale Mitigation Policy 600 DM 6, 2015. (in response to Executive Order 3330)
- U.S. Department of Interior, U.S. Fish and Wildlife Service, 2014. Endangered and Threatened Wildlife and Plants; Threatened Status for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake; Final Rule (50 CFR Part 17). *Federal Register* Vol. 79 No. 130. July 8, 2014.
- U.S. Department of Interior, U.S. Fish and Wildlife Service, 2013. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Northern Mexican Gartersnake and Narrow-Headed Gartersnake; Proposed Rule (50 CFR Part 17). *Federal Register* Vol. 78 No. 132, July 10, 2013.
- U.S. Department of Interior, U.S. Fish and Wildlife Service, 2014. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*); Final Rule (50 CFR Part 17). Vol. 79 No. 192, October 3, 2014.
- U.S. Department of Interior, U.S. Fish and Wildlife Service, 2015. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*); Final Rule (50 CFR Part 17). *Federal Register* Vol. 79, No. 218, November 12, 2014

U.S. Department of Interior, U.S. Fish and Wildlife Service, 2014. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Jaguar; Final Rule, 50 CFR Part 17. Federal Register Volume 79 No. 43. March 5, 2014.

U.S. Department of Interior, Bureau of Land Management, Madrean Archipelago Rapid Ecological Assessment, 2015.

U.S. Department of Interior, U.S. Fish and Wildlife Service, Mexican Spotted Owl Recovery Plan Outline, 2012.

U.S. Department of Interior, U.S. Fish and Wildlife Service, Jaguar Recovery Plan Outline, 2012.

U.S. Department of Interior, U.S. Fish and Wildlife Service, Draft Ocelot Recovery Plan, 2010.

U.S. Fish and Wildlife Service, University of Arizona, and Arizona Game and Fish Department, 2012. News Release on December 20, 2012: Jaguar and Ocelot Recently Photographed by Monitoring Cameras in Southern Arizona; U.S. Fish and Wildlife Service Southwest Emphasis Areas

Pertinent studies & communications in the Administrative Record *not* produced in Army Corps FOIA responses to Tucson Audubon

ASL Hydrogeological and Environmental Services, 1994 (see Binder 3, pages 510-511 of the ACE's July 17, 2015 FOIA response to Tucson Audubon, where the proponents cite copies attached for both an ASL 1994 and 1999 study)

ASL Hydrologic and Environmental Services Groundwater Model, west of Benson, associated with the Property on the groundwater and surface water regimes, 1999. (see Binder 3, page 453 of the ACE's July 17, 2015 FOIA response to Tucson Audubon)

Burgess and Niple, 2004. Groundwater Availability Study, Benson, Arizona, May 2004.

Department of Interior, U.S. Fish and Wildlife Service Communication, Steven L. Spangle, Field Supervisor, USFWS to Sallie Diebolt Chief, Arizona Branch, Department of the Army, Los Angeles District, Corps of Engineers dated July 14th, 2015. **RE: Endangered Species Act Consultation on the Department of the Army Permit for Whetstone Ranch as it Relates to the Villages at Vigneto, Cochise County, Arizona** (Permit Number 2003-00826-SDM)

Golder and Associates Water Study / Technical Memorandum, 2004 (see: Binder 2, Page 228 and See Binder 3, pages 510-511 and 592 of the ACE's July 17, 2015 FOIA response to Tucson Audubon)

Technical Memorandum: Vegetative Volume Determination comparing the vegetative volume on the Property and Off-site Mitigation Parcel, September 29, 2005. (see Binder 2, Page 229 of ACE's July 17, 2015 FOIA response to Tucson Audubon)

Pertinent News Articles & Opinion Editorials

Our View: 2 bills could drain Arizona water - to help a developer, Editorial Board, The Republic, Feb. 21, 2016

Arizona's Self Satisfaction on Water Must End, Opinion Editorial by Tim Steller, AZ Daily Star, Feb. 20, 2016

Master plan for huge Benson development still in flux, News article by Emily Bregel, AZ Daily Star, Feb. 20, 2016

Climate change will reduce San Pedro recharge, study says, News article by Tony Davis, AZ Daily Star, Feb 19, 2016

Tucson Audubon Society hopes to delay Vigneto CMP approval, News article by Dana Cole, Sierra Vista Herald, Feb. 5, 2016

Vigneto needs 'green' facelift, Game and Fish says, News article by Tony Davis, AZ Daily Star, Dec. 19, 2015

Our water laws inadequate for hotter, drier world, Opinion editorial by Kathy Jacobs, AZ Daily Star, Dec. 5, 2015

Bird, snake could delay 28,000-home development near Benson, News article by Tony Davis, AZ Daily Star, Nov. 28, 2015

Concerned by Villages development, Letter to editor, Benson News-Sun, Nov. 3, 2015

Reckless use of water inherent in "Villages" development, Letter to editor, Benson News-Sun, Nov. 3, 2015

Vigneto needs water conservation, Letter to editor, Benson News-Sun, Oct. 27, 2015

Study: Benson project to spur 'unprecedented economic activity', News article by Tony Davis, AZ Daily Star, Oct. 31, 2015

Tuscany absent from new Benson development plan, News article by Tony Davis, AZ Daily Star, Oct. 12, 2015

Developer shares vision for master planned community in Benson, News article by Dana Cole, Sierra Vista Herald, Aug. 21, 2015

Benson approves agreement between City and El Dorado, News article by Dana Cole, Benson News-Sun, July 29, 2015

"No distinction" between a review and reconsideration of Benson project permit, Corps says, News article, AZ Daily Star, July 29, 2015

Benson facilities district would pay for new roads, News article, AZ Daily Star, July 18, 2015

Corps is reviewing Benson project's permit, News article, AZ Daily Star, July 17, 2015

Concerned by Villages at Vigneto development's impact, Opinion editorial, Norm Meader, San Pedro Valley News, June 23, 2015

Land development seriously impacting San Pedro, Report by federal agency warns of consequences, News article, Sierra Vista Herald, June 22, 2015.

Villages at Vigneto would siphon scarce water, Opinion, Tricia Gerrodette, Sierra Vista Herald, June 13, 2015

Benson project reveals state's weakness on water, Editorial, by Tim Steller, Arizona Daily Star, June 13, 2015

Tucson Audubon Society Concerned About Housing Development's Environmental Impact, Radio Interview, by Stina Sieg, KJZZ 91.5, June 08, 2015

Villages at Vigneto water impact debate wages on San Pedro River's future is a big concern, News article by Dana Cole, Sierra Vista Herald, June 10, 2015

Reconsider permit for big Benson project, Audubon urges, News article by Tony Davis, Arizona Daily Star, June 07, 2015

Benson developer: We'll build regardless of council vote, News article by Tony Davis, Arizona Daily Star, April 11, 2015

Massive Benson development goes next to City Council, News article by Tony Davis, Arizona Daily Star, April 08, 2015

Development would make Benson 8 times bigger, News article by Tony Davis, Arizona Daily Star, April 04, 2015

Huge new 'communities' planned for Tucson, Albuquerque, Sprawl rises from its slumber, but urban renaissance is still thriving, News article by Jonathan Thompson, High Country News, April 27, 2015

Council approves plat although it violates ordinance, News article by Thelma Grimes, Benson News Sun, March 30, 2005